

## Patent Abstracts of Japan

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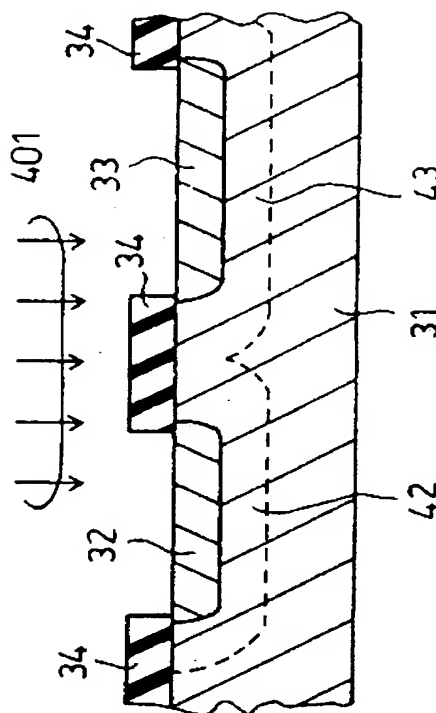
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TITLE : SEMICONDUCTOR INTEGRATED CIRCUIT



**ABSTRACT :** PURPOSE: To enable the formation of a circuit in a small marginal area and the circuit programming such as alteration of a circuit with a laser or an electron beam by composing a circuit programming element of at least two high density impurity regions formed separately from each other on a substrate surface region.

CONSTITUTION: A semiconductor substrate 31 is, for example, P type silicon substrate having impurity density of  $10^{15}\text{cm}^{-3}$ , and used as a resistor or wirings in a semiconductor integrated circuit. For instance,  $\text{N}^+$  type layers 32, 33 having  $10^{18}\text{cm}^{-3}$  or larger of impurity density and  $0.5\mu\text{m}$  of depth, and an insulating film 34 for isolating between elements are formed. A local heating method, for example, with a laser or an electron beam is applied to the element of the structure described above to extend and diffuse the layers 32, 33, thereby originally connecting individual elements as a short circuit or a resistor. In other words, the layers 32, 33 are diffused and spread by the emission of energy beam spot 401 to form regions 42, 43.

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